- 1. Nonprescription Drugs Advisory Committee (NDAC) in joint session with the Advisory Committee for Reproductive Health Drugs (ACRHD). Meeting transcript. (Accessed May 14, 2004, at http://www.fda.gov/ohrms/dockets/ac/03/transcripts/4015T1.pdf.) 2. Trussell J, Ellertson C, von Hertzen H, et al. Estimating the effectiveness of emergency contraceptive pills. Contraception 2003;
- 3. Kahlenborn C, Stanford JB, Larimore WL. Postfertilization effect of hormonal emergency contraception. Ann Pharmacother 2002:36:465-70.

THE EDITORIALISTS REPLY: We received letters both supporting and condemning our editorial concerning the FDA's delay in approving the proposal to switch Plan B from prescription status to over-thecounter availability. The letter from Dr. Stanford and colleagues raises several important issues; each of these was considered by the FDA's joint advisory committees, which voted 23 to 4 for approval on December 16, 2003.

Dr. Stanford and colleagues object, stating that label comprehension among adolescents "especially those younger than 15 years of age" has "not been studied." Label-comprehension data collected from 656 girls and women 12 to 50 years of age, including 76 subjects 12 to 16 years of age (11.6 percent), were presented at the meeting. Of all U.S. girls and women 12 to 50 years of age, 12.6 percent are 12 to 16 years of age. The adolescents understood 60 to 97 percent of the label's communication objectives. These results were very similar to the results for the group as a whole and are well within the standards previously accepted for the approval of other over-the-counter drugs.

The mechanisms of action of levonorgestrel are not fully defined. It clearly can interfere with ovulation, and it clearly will not interfere with an implanted pregnancy. It may interfere with implantation of Alastair J.J. Wood, M.D.

a blastocyst. Those who consider "life" to begin at fertilization may consider this medication an unacceptable option for this reason. We support appropriate labeling to allow persons to make informed decisions. Such labeling changes are part of the usual negotiation process that occurs between a company and the FDA before approval.

Finally, the concern that over-the-counter availability of emergency contraception will lead to "public health" problems, including increased rates of sexually transmitted infections due to irresponsible sexual behavior and decreased use of proper primary contraceptive methods, is just not supported by credible available data. The actual-use study data presented to the committees demonstrated that women with ready access to emergency contraception used condoms more frequently, had intercourse without any contraception less frequently, and used more efficacious methods of contraception more frequently than other women.

We understand and respect the fact that some have moral objections to contraception. However, as we explain in our editorial, the statutory duty of the FDA is to review the data evaluating the safety and efficacy of drugs and, when safety and efficacy are demonstrated, to approve such drugs for sale. If groups with moral objections wish to prevent the sale of a class of drugs, they should proceed through the legislative process. They should not corrupt the scientific-review process of the FDA to achieve their ends. We believe that it will be very hard to put this genie back in the bottle. We squander public trust at our peril.

Jeffrey M. Drazen, M.D. Michael F. Greene, M.D.

## The Changing Face and Implications of Childhood Obesity

TO THE EDITOR: Bhargava et al. (Feb. 26 issue)<sup>1</sup> report that in their study in India, low birth size (expressed as the ponderal index) was associated with early adiposity rebound and impaired glucose tolerance. We have described type 2 diabetes in Asian teenagers in the United Kingdom,<sup>2</sup> but it is unclear how that finding relates to birth size. Studying a multiethnic cohort of 5000 children from Birmingham, United Kingdom,3 our group found that birth weight and the ponderal index in 1571 South Asian infants were significantly lower than those in 2204 white infants (birth weight, 3.10 kg vs. 3.31 kg; P<0.001; ponder-

al index, 24.1 vs. 24.5; P=0.02). We then studied a subgroup of healthy, nondiabetic 16-year-old girls (30 white and 29 South Asian) (Table 1). The South Asian teenagers had been lighter at birth than the white teenagers (with a trend toward a lower ponderal index), but at 16 years of age the South Asian girls had a higher log-transformed blood glucose concentration while fasting and a trend toward a higher body-mass index than the white girls.

Thus, the associations reported by Bhargava et al. appear to be highly relevant to South Asians born in a Western, nutritionally replete society and

suggest that factors during early life in South Asians may contribute to their increased risks of diabetes and cardiovascular disease in adulthood.<sup>4</sup>

Timothy Barrett, Ph.D. Sarah Ehtisham, M.B. Eamonn Maher, M.D.

University of Birmingham Birmingham B15 2TT, United Kingdom t.g.barrett@bham.ac.uk

- 1. Bhargava SK, Sachdev HS, Fall CHD, et al. Relation of serial changes in childhood body-mass index to impaired glucose tolerance in young adulthood. N Engl J Med 2004;350:865-75.
- **2.** Ehtisham S, Barrett TG, Shaw NJ. Type 2 diabetes mellitus in UK children an emerging problem. Diabet Med 2000;17:867-71.
- **3.** Bundey S, Alam H. A five-year prospective study of the health of children in different ethnic groups, with particular reference to the effect of inbreeding. Eur J Hum Genet 1993;1:206-19.
- **4.** McKeigue PM. Metabolic consequences of obesity and body fat pattern: lessons from migrant studies. Ciba Found Symp 1996;201: 54-64.

TO THE EDITOR: Bhargava et al. aimed to identify the "critical period" during which persons whose birth weight was low begin to have an increased risk of type 2 diabetes because of increased weight gain.1 They conclude that this phase starts only at two years of age. This conclusion seems incomplete and actually cannot be drawn from the data presented. The authors ignore the fact that rapid neonatal weight gain has variously been shown to be of critical importance,2,3 especially for increased adipogenesis accompanied by hyperinsulinemia and insulin resistance, as observed in the current study in the subjects at increased risk. Since Bhargava et al. have interpolated data only for neonatal life, they cannot draw conclusions regarding the effects of the extent and dynamics of neonatal weight gain. Their conclusion contradicts recent data showing that increased neonatal weight gain not only "programs" increased metabolic risk but even markedly shortens the life span, whereas weight gain later in life does not.4 Therefore, ruling out the neonatal period as a critical window for the programming of lasting metabolic risk seems unwise.

Andreas Plagemann, M.D. Thomas Harder, M.D.

Charité Clinic of Obstetrics 13353 Berlin, Germany andreas.plagemann@charite.de

- 1. Dietz WH. Overweight in childhood and adolescence. N Engl J Med 2004;350:855-7.
- **2.** Dörner G, Plagemann A. Perinatal hyperinsulinism as possible predisposing factor for diabetes mellitus, obesity and enhanced cardiovascular risk in later life. Horm Metab Res 1994;26: 213-21.

Table 1. Differences between Asian and White Teenage Girls in Birth Size, Body-Mass Index, and Fasting Plasma Glucose Levels.\*\*

Variable	South Asian Teenage Girls (N=29)	White Teenage Girls (N=30)	P Value
Birth weight (kg)	3.02±0.12	3.37±0.08	0.02
Ponderal index at birth	22.7±0.78	24.6±1.60	0.29
Body-mass index at 16 yr	23.63±0.86	21.79±0.51	0.07
Fasting plasma glucose at 16 yr (mmol/liter)†	0.664±0.006	0.645±0.006	0.04

- \* Plus-minus values are means ±SEM. The ponderal index is 1000 times the weight in grams divided by the cube of the height (or crown-heel length) in centimeters, and the body-mass index is the weight in kilograms divided by the square of the height in meters.
- † The fasting plasma glucose levels were log-transformed to normalize the distribution and were evaluated by analysis of variance, with the log-transformed percentage of tissue fat measured by dual-energy x-ray absorptiometry.
- **3.** Stettler N, Zemel BS, Kumanyika S, Stallings VA. Infant weight gain and childhood overweight status in a multicenter, cohort study. Pediatrics 2002;109:194-9.
- **4.** Ozanne SE, Hales CN. Lifespan: catch-up growth and obesity in male mice. Nature 2004;427:411-2.

TO THE EDITOR: In his Perspective article accompanying the report by Bhargava et al., Dietz notes that "various ethnic groups have rarely been systematically compared in terms of longitudinal changes in growth, nor have linkages been established between changes in food intake or physical activity and changes in growth."1 I wish to discuss both aspects in terms of childhood obesity in China. Childhood obesity is indeed present in countries around the world, including China.2 China used to be known for its slender people. Modern China is now fighting obesity, especially childhood obesity, the prevalence of which (28 percent)<sup>2</sup> is now similar to that in the rest of the world. Weight gain in Chinese children results from excessive caloric intake from fast food,3 insufficient exercise from increasing availability of and increased reliance on mechanized transportation instead of the traditional bicycles,4 and the popularization of television. Indeed, each hourly increment of television viewing is associated with a 1 to 2 percent increase in the prevalence of obesity in urban China.5

Tsung O. Cheng, M.D.

George Washington University Medical Center Washington, DC 20037 tcheng@mfa.gwu.edu

1. Dietz WH. Overweight in childhood and adolescence. N Engl J Med 2004;350:855-7.

- 2. Cheng TO. The current state of cardiology in China. Int J Cardiol (in press).
- 3. Idem. Fast food and obesity in China. J Am Coll Cardiol 2003;42:
- 4. Idem. Price of modernization of China. Circulation 2001;103: e131 (Web only). (Accessed May 13, 2004, at http://www. circulationaha.org.)
- 5. Ma GS, Li YP, Hu XQ, Ma WJ, Wu J. Effect of television viewing on pediatric obesity. Biomed Environ Sci 2002;15:291-7.

THE AUTHORS REPLY: The data presented by Barrett et al. provide snapshots of children at birth and at the age of 16 years and support our results. We agree that our findings are highly relevant to migrants from South Asia to England, who (like the Delhi cohort) represent populations in transition.

The point raised by Plagemann and Harder about neonatal weight gain is important because current pediatric practice is to encourage weight gain in small infants. There is evidence that this policy has short-term benefits for infants' survival.1 Plagemann and Harder cite three references to support their contention that neonatal weight gain is associated with an increased risk of subsequent insulin resistance and diabetes. The article by Dörner and Plagemann<sup>2</sup> is a review of the effects of "overnutrition" in fetal life due to maternal diabetes or in infancy due to formula feeding. We believe that neither situation is relevant to our data. The article by Stettler et al.<sup>3</sup> focuses on a different outcome: the authors show that increased weight gain during the first four months of life increased the risk of being overweight at the age of seven years. Ozanne and Hales' study of mice4 showed that neonatal catch-up growth after maternal protein restriction throughout pregnancy is associated with reduced longevity. The extrapolation of these findings to human populations is questionable, especially because of the advanced physiological maturity of mice at birth.

Our regression models were designed to predict the 120-minute glucose concentration and the risk of impaired glucose tolerance or diabetes. The usefulness of knowing the body-mass index at the age of 2 years may be assessed by adding it as a new term to models that already include age, sex, birth

weight, body-mass index at the age of 12 years, and adult body-mass index. The P value with the extra information gained by including body-mass index at the age of two years is 0.002 in both models. Body-mass index at the age of six months has similar effects (P=0.02 and P=0.007 for the prediction of the 120-minute glucose concentration and the risk of impaired glucose tolerance or diabetes, respectively). Low body-mass index at six months and at two years is associated with high 120-minute glucose concentrations and impaired glucose tolerance or diabetes. These findings are consistent with those of similar longitudinal studies conducted in Helsinki<sup>5</sup> and Hertfordshire, United Kingdom.<sup>6</sup>

In conclusion, our data suggest that when glucose tolerance is used as an outcome, thinness in infancy and a gain in body-mass index after the age of two years are associated with an increased risk. One suggested explanation is that the critical period for the development of muscle mass ends in early postnatal life and weight gain after this time leads to an increase in adiposity.7

Harshpal Singh Sachdev, M.D.

Maulana Azad Medical College New Delhi 110 002, India hpssachdev@hotmail.com

Caroline H.D. Fall, D.M. Clive Osmond, Ph.D.

University of Southampton Southampton SO16 6YD, United Kingdom

- 1. Victora CG, Barros FC, Horta BL, Martorell R. Short-term benefits of catch-up growth for small-for-gestational-age infants. Int J Epidemiol 2001;30:1325-30.
- 2. Dörner G, Plagemann A. Perinatal hyperinsulinism as possible predisposing factor for diabetes mellitus, obesity and enhanced cardiovascular risk in later life. Horm Metab Res 1994;26:213-21.
- 3. Stettler N, Zemel BS, Kumanyika S, Stallings VA. Infant weight gain and childhood overweight status in a multicenter, cohort study. Pediatrics 2002;109:194-9.
- 4. Ozanne SE, Hales CN. Lifespan: catch-up growth and obesity in male mice. Nature 2004;427:411-2.
- 5. Eriksson JG, Forsen T, Tuomilehto J, Osmond C, Barker DJP. Early adiposity rebound in childhood and risk of Type 2 diabetes in adult life. Diabetologia 2003;46:190-4.
- 6. Hales CN, Barker DJP, Clark PMS, et al. Fetal and infant growth and impaired glucose tolerance at age 64. BMJ 1991;303:1019-22.
- 7. Gale CR, Martyn CN, Kellingray S, Eastell R, Cooper C. Intrauterine programming of adult body composition. J Clin Endocrinol Metab 2001:86:267-72.

## B-Type Natriuretic Peptide in the Evaluation of Acute Dyspnea

TO THE EDITOR: Mueller et al. (Feb. 12 issue)<sup>1</sup> conclude that rapid measurement of B-type natriuretic

pnea. The authors state that echocardiography was "strongly recommended." However, they provide peptide in the emergency department improved the no data regarding left ventricular ejection fraction. evaluation and treatment of patients with acute dys- About half of all patients with heart failure have pre-